89-1141

No. _____

In the

Supreme Court of the United States

October Term, 1989

MINNESOTA MINING &
MANUFACTURING COMPANY,

Petitioner,

v.

JERRE M. FREEMAN,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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QUESTIONS PRESENTED

1. In reviewing an appeal from a district court judgment holding a patent both invalid and not infringed, does the appellate court lose jurisdiction to review the judgment of invalidity through mootness when it affirms the judgment of no infringement?

2. Assuming that the appellate court retains jurisdiction, is it permissible policy for the appellate court to vacate the district court's judgment on the validity issue without reaching the merits, thereby leaving the patent presumptively valid?

LIST OF PARTIES AND RULE 28.1 LIST

The parties to the proceedings below were the petitioner, Minnesota Mining and Manufacturing Company ("3M"), and the respondent, Dr. Jerre M. Freeman. A suit by respondent against Coopervision, Inc., which the district court consolidated with the present action, was settled shortly before trial.

3M has no parent companies, subsidiaries, or affiliates to list pursuant to Rule 28.1.

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IN THE SUPREME COURT OF THE UNITED STATES

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MINNESOTA MINING AND MANUFACTURING COMPANY,

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v.

JERRE M. FREEMAN,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

The petitioner, 3M, asks that a Writ of Certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Federal Circuit, entered in the above-entitled proceeding on August 4, 1989.

OPINIONS BELOW

The opinion of the Court of Appeals for the Federal Circuit is not published. A copy is reprinted in the Appendix hereto, p. 1a, *infra.*

The Opinion and Order of the United States District Court for the District of Delaware (Wright, D.J.) are reported at 693 F. Supp. 134. They are reprinted in the Appendix hereto, pp. 8a and 42a, respectively, *infra.*

JURISDICTION

The respondent brought this suit in the District of Delaware complaining of patent infringement, and the petitioner counterclaimed for a declaration of patent invalidity. The district court's jurisdiction over both the complaint and counterclaim was based upon 28 U.S.C. §1338(a).

After the district court entered judgment of both invalidity and no infringement, respondent appealed to the United States Court of Appeals for the Federal Circuit. The Federal Circuit affirmed the judgment of no infringement, but vacated the judgment of invalidity.

It adhered to its ruling despite petitioner's combined petition for rehearing and suggestion for rehearing *in banc*. The petition was denied on September 29, 1989.

This Court's jurisdiction is invoked under 28 U.S.C. § 1254(1).

STATEMENT OF THE CASE

The human eye contains a natural lens that is suspended in the eye's clear internal fluid. Medical science has learned to remove a defective natural lens surgically and replace it with an artificial lens, known in the art as an intraocular lens. The intraocular lens is left inside the patient's eye permanently. The respondent in this case owns U.S. Patent No. Re. 31,640, which covers a particular type of such intraocular lenses.

The petitioner manufacturers intraocular lenses commercially. It has made many different models of lenses over the years, and is continuing to design and introduce new models on a relatively continuous basis.

The respondent filed suit on October 5, 1984, alleging that certain models of the petitioner's intraocular lenses infringed his patent. The petitioner answered by denying infringement and counterclaimed that the patent was invalid. After a three-week bench trial, the district court found the specific accused intraocular lenses of the petitioner to be noninfringing. It also found the asserted claims to be invalid. The court entered a judgment of both invalidity and no infringement, p. 42a, *infra*, and wrote a lengthy supporting Opinion.

The respondent appealed both aspects of the district court's judgment to the United States Court of Appeals for the Federal Circuit. The Federal Circuit affirmed the judgment of no infringement, but vacated the judgment of invalidity without reaching the merits of that issue. It explained the reason for its vacation as follows:

> Since our affirmance of the district court's interpretation of the claims results in affirmance of the court's findings of noninfringement, there is no occasion for us to review the district court's conclusion that the patent claims are invalid. Accordingly, the portion of the district court's judgment that adjudicated the claims invalid is *vacated*.

P. 6a, *infra* (emphasis in original).

Several points should be emphasized here. The Federal Circuit's vacation of the invalidity judgment in this case is not isolated or unusual for that court. The Federal Circuit for some time has been declining to consider the issue of validity on the merits in cases where

it has determined that no infringement exists. *E.g., Fonar Corp. v. Johnson & Johnson*, 821 F.2d 627, 634 (Fed. Cir. 1987), *cert. denied*, 484 U.S. 1027 (1988); *Vieau v. Japax, Inc.*, 823 F.2d 1510 (Fed. Cir. 1987); *Advance Transformer Co. v. Levinson*, 837 F.2d 1081 (Fed. Cir. 1988); *Sun-Tek Industries, Inc. v. Kennedy Sky Lites, Inc.*, 848 F.2d 179 (Fed. Cir. 1988) *cert denied*, ___U.S.___, 109 S.Ct. 793 (1989); *Julien v. Zeringue*, 864 F.2d 1569 (Fed. Cir. 1989); *Texas Instruments v. U.S. International Trade Commission*, 871 F.2d 1954 (Fed. Cir. 1989); *Environmental Instruments, Inc. v. Sutron Corp.*, 877 F.2d 1561 (Fed. Cir. 1989); *Morton Thikol, Inc. v. Argus Chemical Corp.*, 873 F.2d 1451 (Fed. Cir. 1989) (unpublished); *Senmed, Inc. v. Richard-Allen Medical Industries, Inc.*, 12 U.S.P.Q.2d 1508 (Fed. Cir. 1989). Such vacations have been described as the "established practice" of that court. *Gould v. Control Laser Corp.*, 866 F.2d 1391, 1397 (1989) (Nichols, J., *concurring in part and dissenting in part*); *See* 4 Chisum, *Patents*, § 19.02[1] at 19-19 (1989). The Chief Judge of the circuit, in fact, has stated flatly in an article that this is the Federal Circuit's policy. Markey, *On Simplifying Trials*, 116 F.R.D. 369, 381 n. 24 (1987).

Additionally, the Federal Circuit's vacation has resurrected the respondent's patent. The United States patent statute, 35 U.S.C. § 282, provides each patent with a presumption of validity in the absence of a judgment to the contrary. Had the district court's judgment of invalidity been left undisturbed, it would have barred all future actions against the petitioner under *res judicata*, and collaterally estopped the respondent from initiating actions against other potential infringers. *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1971). When the Federal Circuit vacated that judgment, the patent again became presumptively valid.

The vacation therefore has had many of the effects of a reversal. The respondent now can assert his patent against all intraocular lenses other than the specific models covered by the judgment of no infringement. This will include every new lens model that the petitioner introduces. It already includes every current lens model that is outside the scope of the judgment. *Cf. Preemption Devices v. Minnesota Mining & Manufacturing Co.*, 803 F.2d 1170 (Fed. Cir. 1985) (prior judgment of infringement does not extend to devices "colorably" different from exact device adjudicated).

The vacation in this case occurred, moreover, despite the petitioner's continuous efforts to obtain a judgment of invalidity. At the pleading stage, it asked for declaratory relief. At trial, it convinced the district court that each of the patent claims in issue was

invalid for numerous reasons. Pp. 25a-41a, *infra*. On appeal, it defended the judgment of invalidity vigorously. The Federal Circuit now has nullified those efforts, on which the petitioner spent well over $500,000, and rewarded the respondent without ever considering the merits of the petitioner's position.

The routine nature of the Federal Circuit's action means that the petitioner in this action may find itself defending a series of infringement actions brought by the respondent on the same patent. Even if the petitioner were to prove invalidity thoroughly in each action, those proofs would have no preclusive effect until the Federal Circuit chose to address validity on the merits. Under its current practice, the Federal Circuit would not do so unless and until it adjudged the petitioner an infringer.

REASONS FOR GRANTING THE WRIT

The Federal Circuit's practice of routinely vacating invalidity determinations (a) calls for this Court to exercise its supervisory jurisdiction, (b) may conflict with decisions of this Court, and (c) presents an important question of federal law.

A. The Prior Decisions in This Area Have Caused Confusion.

This Court has addressed in three cases the degree to which a court should or must decide validity after determining that no infringement exists: *Electrical Fittings Corp. v. Thomas & Betts Co.*, 307 U.S. 241 (1939); *Altvater v. Freeman*, 319 U.S. 359 (1943); and *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 337, 330 (1945). With all respect to the Court, it is difficult to reconcile these three decisions. *See, e.g.*, 4 Chisum, *Patents*, § 19.02[1] (1989). Consequently, the guidance they were intended to give the bar is subject to dispute. Because the Federal Circuit is repeatedly applying an extreme interpretation of them, this Court should grant the requested Writ to provide further guidance.

Electrical Fittings reviewed the Circuit Court of Appeals' dismissal of an appeal from a judgment of patent validity, where the district court also had found the patent not infringed. This Court reversed and remanded the case for the circuit court to direct that the judgment of validity be eliminated. Reasoning that the circuit court's handling would leave the validity judgment outstanding, this Court stated that the circuit court had jurisdiction "to entertain the appeal, not for the purpose of passing on the merits, but to direct reformation of the decree." 307 U.S. at 242.

In *Altvater*, the defendant in a patent suit[1] had denied that its devices were covered by the patent and, unlike the defendant in *Electrical Fittings*, counterclaimed for a declaration that the patent was invalid. 319 U.S. at 360-61. The district court held the patent both invalid and not infringed. *Id.* at 362. The Circuit Court of Appeals affirmed the district court's judgment of no infringement but struck the judgment of invalidity, reasoning that its affirmance of no infringement had rendered the validity issue moot. *Id.* at 362-63.

Upon review, this Court reversed on the invalidity issue and remanded that cause to the Court of Appeals to treat the issues raised by the counterclaim. *Id.* at 365-66. It observed that, while "hold[ing] a patent valid if it is not infringed is to decide a hypothetical case," the case before it was "quite different" because it contained "not only a bill and answer but a counterclaim" for invalidity. *Id.* at 363. This Court observed that the dispute "went beyond the single claim and the particular accused devices involved in [the] suit," *id.* at 364, although the precise nature of that continuing dispute is unclear from the opinion.

These two cases were followed by *Sinclair & Carroll*, in which this Court reversed the Circuit Court of Appeals' holding that a patent was valid. This Court singled out for praise the district court's decision to treat validity despite also having found no infringement:

> There has been a tendency among lower federal courts in infringement suits to dispose of them where possible on the ground of non-infringement without going into the question of the validity of the patent. . . . It has come to be recognized, however, that of the two questions validity has the greater public importance, . . . and the District Court in this case followed what will usually be the better practice by inquiring fully into the validity of the patent.

325 U.S. at 330 (citations omitted). The Court in *Sinclair & Carroll* did not address the degree to which its statements impacted on the earlier decisions of *Electrical Fittings* and *Altvater*. Neither did it elaborate on the circumstances under which a case is to be considered "usual" for the purpose of inquiring fully into validity.

The difficulty in interpreting *Electrical Fittings*, *Altvater*, and

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[1] The complaint in *Altvater* had asked for specific performance of a license agreement that allegedly existed between the patent owner and the defendant. 319 U.S. at 360. Both the district and appellate courts found that no valid agreement existed, however, *id.* at 362, leaving the defendant in the position of a potential infringer. Both courts addressed whether the defendant's devices infringed the asserted patent. *Id.*

Sinclair & Carroll has received comment before. Professor Chisum has noted that these three cases have "given apparently conflicting signals" and that, prior to the creation of the Federal Circuit in 1982, the lower courts adopted a "variety" of practices in dealing with the issue. 4 Chisum, *Patents*, § 19.02[1] at 19-8. He notes, however, that the decisions of the regional circuit courts "demonstrated a disposition to pass on [the issue of validity] first." *Id.* at 19-18 (citing authorities).

B. The Federal Circuit's Practice Under Those Decisions Is Extreme.

Now, of course, the Federal Circuit's practice is applied to all patent cases. 28 U.S.C. § 1295. That practice is extreme, however, and contrasts sharply with the disposition the regional circuits formerly held. The Federal Circuit will not address validity after a determination of no infringement.[2] *E.g., Fonar Corp. v. Johnson & Johnson*, 821 F.2d 627, 634 (Fed. Cir. 1987). *See* the discussion at 2-4, *supra*.

Despite this clarity in application, the basis for the Federal Circuit's practice is unclear. A number of the court's decisions either describe validity as "moot" in the face of a determination of no infringement, *e.g., Sun-Tek Industries, Inc. v. Kennedy Sky Lites, Inc.*, 848 F.2d 179 (Fed. Cir. 1988) *cert denied*, ___U.S.___, 109 S.Ct. 793 (1989), or state that no case or controversy with respect to validity remains. *E.g., Senmed, Inc. v. Richard Allen Medical Industries Inc.*, 12 U.S.P.Q.2d 1508 1510 n.4 (Fed. Cir. 1989). These decisions suggest that the Federal Circuit considers jurisdiction to be lacking. *See Fonar Corp. v. Johnson & Johnson*, 821 F.2d 627, 634 (Fed. Cir. 1987). The court, however, has described its practice in discretionary language as well. *E.g., Vieau v. Japax, Inc.*, 823 F.2d 1510, 1521 (Fed. Cir. 1987) (Bennett, J., *concurring*). These two lines of reasoning are mutually exclusive, as the court has no discretion if the issue truly is jurisdictional. In the present case, the court's assertion that it has "no occasion" to review validity, p. 6a, *infra*, fails to clearly describe either line of reasoning.

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[2] While the Federal Circuit on occasion has discussed the circumstances under which it might address validity, *e.g., Vieau v. Japax, Inc.*, 823 F.2d 1510 (Fed. Cir. 1987) (Bennett, J., *concurring*), the petitioner is unaware of the Federal Circuit ever having found such circumstances to actually exist.

C. The Federal Circuit's Practice Obstructs the Applicable Federal Policies.

Apart from being a departure from the former practices of the regional circuits, the Federal Circuit's practice deserves this Court's attention because it conflicts with a number of important Federal policies. This Court has long recognized that the validity of a patent is an issue of significant public importance. *E.g.*, *Pope Manufacturing Co. v. Gormully*, 144 U.S. 224, 234 (1892); *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 330 (1945); *Precision Instrument Manufacturing Co. v. Automotive Maintenance Machinery Co.*, 324 U.S. 806, 816 (1945); *Blonder-Tongue Laboratories, Inc. v. University of Illinois Foundation*, 402 U.S. 313 (1971). Because an outstanding patent gives its owner the right to exclude all others from making, using, and selling the thing patented, 35 U.S.C. § 271(a), an unwarranted patent restrains competition in ideas that are really part of the public domain. *Pope Manufacturing*, 144 U.S. at 234. Wrongly issued patents that have not yet been adjudged invalid obstruct the strong federal policy in favor of free competition. *E.g.*, *Lear v. Adkins*, 395 U.S. 653, 656, 670 (1969). The public has an interest in obtaining such adjudications to thereby remove specious patents from the marketplace. *Id.* at 674 n.19; *E.g. Cover v. Schwartz*, 133 F.2d 541, 545 (2d Cir. 1943) (discussing whether appellate court should address validity after determining no infringement).

Furthermore, permitting patent owners to reassert patents that have already been adjudged invalid results in a potential misallocation of resources. *Blonder-Tongue Laboratories*, 402 U.S. at 329. The parties to a subsequent suit for infringement will expend resources on the litigation, *id.* at 334-38, the outstanding patent may coerce competitors to pay unwarranted royalties, *id.* at 338-48, and relitigations will burden the courts. *Id.* at 348-49.

The Federal Circuit's refusal to deal with validity works against these policies. This Court has recognized that the issue of validity has more public importance than that of infringement. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. at 330. Yet, the Federal Circuit is routinely turning down the opportunity to address validity. A group of this Court's authorities encourage authoritative testing of patent validity. *Blonder-Tongue Laboratories*, 402 U.S. at 344-45. The Federal Circuit's practice, in contrast, works to reduce the number of validity challenges that survive appellate review.

Under the holding in *Blonder-Tongue Laboratories*, moreover, an adjudication of patent invalidity works as collateral estoppel unless the patent owner can show that it lacked a full and fair opportunity in the

prior litigation. 402 U.S. at 330-34. The Federal Circuit's practice reverses *Blonder-Tongue Laboratories* with regard to the entire class of patent owners who have failed to establish infringement before the Federal Circuit.

The Federal Circuit thus is imposing the very costs identified in *Blonder-Tongue Laboratories*, 402 U.S. at 334-49. The invalid patents that the Federal Circuit is leaving in force will burden industry. Some percentage of those invalid patents will be relitigated, unnecessarily burdening the district courts and ultimately the Federal Circuit. The Federal Circuit's practice, therefore, may not even result in a net conservation of judicial resources. As this Court observed in *Blonder-Tongue Laboratories*, 402 U.S. at 329, "[p]ermitting repeated relitigation of the same issue . . . reflects either the aura of the gaming table or 'a lack discipline and of disinterestedness on the part of the lower courts, hardly a worthy or a wise basis for fashioning rules of procedure.'" (*citing Kerotest Manufacturing Co. v. C-O-Two Co.*, 342 U.S. 180, 185 (1952)).

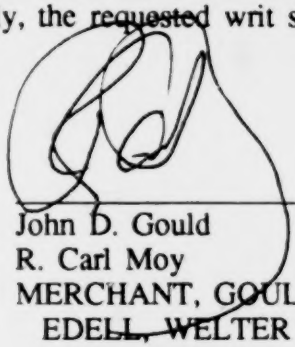
The Federal Circuit's adoption of such a drastic and far-reaching practice without any consideration of its effect is by itself a compelling reason for this Court to provide review.

D. Review Should be Granted in This Particular Case.

The present case provides this Court with a favorable opportunity to review the Federal Circuit's practice. Procedurally, the petitioner has counterclaimed for a declaration of invalidity, thereby presenting one of the key facts of *Altvater*, 319 U.S. at 360-61, and distinguishing it from such cases as *Hall v. U.S. Fiber & Plastics Corp.*, 476 F.2d 418 (3rd Cir. 1973) (validity issue moot where adjudicated non-infringer refuses to defend). Further, the district court in the present case entered a judgment of invalidity, rather than validity, on all the claims at issue. The possiblity that the Federal Circuit has injected an invalid patent back into the marketplace, in contravention of the policy expressed in *Lear v. Adkins*, 395 U.S. at 656, 670, is therefore clear. The significant resources that the parties and the courts have expended in this litigation, in conjunction with the fact that the respondent filed suit against another manufacturer in addition to the petitioner, give substance to the discussion of potential inefficiencies in *Blonder-Tongue Laboratories*, 402 U.S. at 334-49. Moreover, the Federal Circuit's practice is now well-established in that court. Thus, it is not likely to change with the passage of additional time. For all these reasons, the present case would give this Court an excellent opportunity to provide the needed clarification and direction.

CONCLUSION

For the foregoing reasons, the petitioner respectfully submits that the Federal Circuit's practice of vacating validity determinations without reaching the merits is a serious obstacle to numerous strong federal policies. The present case will allow this Court to address that practice squarely. Consequently, the requested writ should issue.



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Date: December 28, 1989

APPENDIX

Note: This opinion has not been prepared for publication in a printed volume because it does not add significantly to the body of law and is not of widespread legal interest. It is a public record. It is not citable as precedent. The decision will appear in tables published periodically.

United States Court of Appeals for the Federal Circuit

89-1020, -1021

DR. JERRE M. FREEMAN,

Plaintiff-Appellant,

v.

MINNESOTA MINING & MANUFACTURING COMPANY,

Defendant/Cross-Appellant.

DECIDED: August 4, 1989

Before FRIEDMAN, RICH, and MICHEL, Circuit Judges.

FRIEDMAN, Circuit Judge.

DECISION

The judgment of the United States District Court for the District of Delaware is affirmed insofar as it held that the claims of the appellant's Reissue Patent No. 31,640 here at issue were not infringed by the appellee Minnesota Mining & Manufacturing Company (3M)'s products and denied 3M attorney fees, and is vacated insofar as it held that those claims are invalid.

OPINION

I

The patent claims an intraocular lens that is surgically implanted in the human eye after the eye's natural lens affected with cataract has been removed.

The implanted device consists of an artificial lens and attached posts or threads that are used to attach the lens to the eye and hold the lens in place. The claim limitations at issue in this case relate to the weight and buoyancy of the implant, described in relation to the density of a liquid in the eye known as aqueous humor.

The claims of the original patent specified that the "intra-ocular lens device" include

> buoyancy means external of and attached to said optical lens having a mean density less than the density of said aqueous humor . . . for reducing the overall mean density of said lens device to substantially that of said aqueous humor.

The reissued patent added broadened claims that contain the limitation that there be a "buoyancy" or "support means." the "density" of which is "less than the density of the aqueous humor of the eye," for providing at least a degree of buoyant uplift to said optical lens when said intraocular lens device is implanted into the human eye." The reissue patent also included the claims in the original patent described above.

After trial, in a lengthy opinion, the district court held that (1) the appellant had not proved infringement, (2) 3M had shown by clear and convincing evidence that overcame the presumption of validity that all the claims at issue would have been obvious and that one of them also was anticipated by a prior patent, and (3) that 3M was not entitled to attorney fees because "this suit was not frivolous and that exceptional circumstances were not present." Freeman v. Minnesota Mining & Mfg. Co., 693 F. Supp. 134, 156, 9 USPQ2d 1111, 1130-31 (D. Del. 1988).

II

A. The appellant argues that the district court's finding of noninfringement was based upon a misinterpretation of the claims. The district court construed the limitation in the original patent claims that the "buoyancy means 'reduc[e] the overall mean density of said lens device to substantially that of said aqueous humor'" to "require[] reducing the density to close to neutral buoyancy, thus creating a condition wherein the lens would weigh near zero in aqueous humor." Freeman, 693 F.2d at 141, 9 USPQ2d at 1118. The court construed the limitation in the reissue patent claims "at least a degree of buoyant uplift for the optical lens when the intraocular lens is implanted into the human eye" to mean that "'buoyant uplift' requires at least neutral buoyancy." 693 F.2d at 144, 9 USPQ2d at 1121. The court thus

interpreted the broadened reissue claims to cover implants whose combined weight in aqueous humor was either near zero or less than zero, i.e., they would float.

The appellant contends that the limitation "a degree of buoyant uplift" is satisfied if the support means itself (as distinguished from the entire intraocular implant) is buoyant in aqueous humor, thereby imparting a "degree of buoyant uplift" to the lens and making the implant lighter than the lens by even the smallest degree.

In rejecting this interpretation of the claims, the district court relied upon the specification, the prosecution history of both the original patent and the reissue, and the expert testimony. Based upon all of this evidence, including the testimony of 3M's experts (which the court credited), the court concluded that the claims were limited to implants that were at least neutrally buoyant in aqueous humor.

We cannot say that the conclusion was erroneous or that the court's finding of no infringement, based upon its interpretation of the claims, was clearly erroneous.

The appellant argues that in construing the claims, the district court improperly relied (among other factors) upon the examiner's understanding, based upon the prosecution history, that the contested language of the claims had the meaning that the court subsequently ascribed to it. The examiner understood "buoyant uplift" to mean

providing at least some actual uplift to the otherwise sinking lens device when the implant is placed in the eye, and allowed the claims based upon that understanding.

The appellant was aware that the examiner proposed to allow the claims on the basis of that interpretation. His acceptance of the patent in these circumstances "precludes" him "from obtaining claim construction that would resurrect subject matter surrendered during prosecution of his application." Hughes Aircraft Co. v. United States, 717 F.2d 1351, 1362, 219 USPQ 473, 481 (Fed. Cir. 1983).

The appellant contends that 37 C.F.R. §1.109 precludes use of an examiner's construction of the claim as evidence of the proper scope of that claim. That section authorizes an examiner to state the reasons for allowance, particularly where, as here, "the prosecution as a whole does not make clear his or her reasons for allowing the claim or claims."

The appellant relies on the last two sentences of that section, which authorize the applicant to comment in writing "on the [examiner's stated] reasons for allowance," and provide that "[f]ailure to file such a statement shall not give rise to any implication that the applicant or patent owner agrees with or acquiesces in the reasoning of the examiner." We do not read these provisions, however, as precluding a court in construing a claim from giving some weight to

the examiner's interpretation that was the basis upon which the examiner allowed the claim.

B. Since our affirmance of the district court's interpretation of the claims results in affirmance of the court's findings of noninfringement, there is no occasion for us to review the district court's conclusion that the patent claims are invalid. Accordingly, the portion of the district court's judgment that adjudicated the claims invalid is vacated. Cf. Vieau v. Japax, Inc., 823 F.2d 1510, 1513-14, 1517, 3 USPQ2d 1094, 1097, 1100 (Fed. Cir. 1987). See also, On Simplifying Patent Trials, 116 F.R.D. 369 (1987) (Chief Judge Markey).

III

The cross-appeal challenges the district court's refusal to award attorney fees to 3M based on the court's finding that this is not an exceptional case under 35 U.S.C. § 285.

"An award of attorney's fees is reviewed under the abuse of discretion standard." Hycor Corp. v. Schlueter Co., 740 F.2d 1529, 1540, 222 USPQ 553, 562 (Fed. Cir. 1984). Although we have affirmed the district court's finding of noninfringement, neither this suit nor the appeal was frivolous or so lacking in merit as to make this an exceptional case. The district court did not abuse its discretion in denying 3M attorney fees. We also reject the appellant's contention that 3M's cross-appeal on the attorney fees itself was frivolous and

that the appellant therefore is entitled to the attorney fees incurred in defending against the cross-appeal.

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF DELAWARE

DR. JERRE M. FREEMAN,	)	
	)	
Plaintiff	)	
	)	
v.	)	Civil Action
	)	84-577 - CMW
MINNESOTA MINING AND MANU-FACTURING COMPANY,	)	
	)	
	)	
Defendant.	)	

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OPINION

Wilmington, Delaware
August 29, 1988

/s/ Caleb M. Wright
WRIGHT, SENIOR JUDGE

This patent infringement suit was brought by Dr. Jerre Minor Freeman against the Minnesota Mining and Manufacturing Company ("3M") on October 5, 1984. Freeman asserts that Claims 1, 4, 10-11, and 21-22 of United States Reissue Patent No. 31,640 ("'640 patent"

or "reissue patent"), entitled "Buoyancy Intraocular Lens Device," are valid and that they were willfully infringed by 3M. Freeman also brought suit against CooperVision, Inc., for infringement of the same patent.

The suits were consolidated for purposes of discovery and trial on the issues of scope of the claims, infringement validity, and enforcement, because of common issues of law and fact between the cases. The cases were also bifurcated such that damages will be the subject of a separate proceeding at a later date, if necessary. 3M filed with the Patent and Trademark Office ("PTO") a petition for reexamination of the '640 patent in light of prior art not previously before the PTO. This Court declined to enjoin the reexamination proceeding, *Freeman v. Minnesota Min. and Mfg., Co.*, 661 F.Supp. 886 (D.Del. 1987), and the PTO granted 3M's petition. The reexamination proceeding was later suspended *sua sponte* by the PTO at the onset of the trial. Manual of Patent Examining Procedure § 2286 (1987).

CooperVision subsequently filed a motion for summary judgment on the grounds that the claims at issue were invalid because they were anticipated by several prior art references not considered by the PTO. Shortly thereafter, 3M filed a motion for partial summary judgment on the issue of the scope of the claims. The Court denied both motions. *Freeman v. Minnesota Min. and Mfg. Co.*, 675 F.Supp. 877 (D.Del. 1987).

On the eve of the trial, Freeman settled his claims with CooperVision and CooperVision was dismissed from the case. *Freeman v. CooperVision, Inc.*, Order of February 26, 1988. Trial was held on 3M's liability on March 1-15, 1988, and April 4, 1988. The parties subsequently filed numerous post-trial memoranda. This Opinion represents the Court's findings of fact and conclusion of law. Because the number of issues raised by the parties is so large and because many of the issues are separate and distinct, the Court's findings and conclusions will be integrated and organized by issue.

I. BACKGROUND

A. The Parties

Plaintiff Dr. Jerre Minor Freeman is a practicing ophthalmic surgeon in Memphis, Tennessee. Pretrial Order at (3)1 (hereinafter cited as "PT"). His undergraduate training was in mechanical engineering. Plaintiff's Trial Exhibit 55 (hereinafter cited as "PTX-___"). He then went to medical school and had several years of training in ophthalmology. PTX-55.

3M is a Delaware corporation with its principal place of business in St. Paul, Minnesota. PT at (3)1. The 3M division responsible for designing and manufacturing intraocular lenses, 3M Vision Care, is a division that was formerly the McGhan Medical Corporation ("McGhan"). McGhan was originally established in 1974 when Donald McGhan and several other personnel left the Dow-Corning Corporation to begin their own company for the production of breast implants and intraocular lenses. Trial transcript at 717 (hereinafter cited as "Tr.").

B. Field of Invention

1. Anatomy of The Eye

Freeman's invention pertains generally to intraocular lens devices. '640 patent, Col. 1, lines 11-12. In order to understand Freeman's invention, it is first necessary to have a basic functional understanding of the anatomy of the eye.

The eye functions similarly to a camera. The cornea and lens serve to focus an image on the retina which then translates the image and transmits it to the brain via the optic nerve. Tr. at 16-17. The retina is located at the rear of a large chamber called the vitreous body. This chamber is filled with a fluid called vitreous humor and is separated from the remainder of the eye by the hyaloid face. Tr. at 329; Defendant's Exhibit 103B (hereinafter cited as "DX-___").

The area forward of the vitreous body extends from the hyaloid face to the cornea and is filled with a fluid called aqueous humor. Tr. at 327-39. This forward area contains two chambers separated by the iris, the colored part of the eye. Tr. at 329. The anterior chamber extends forward from the iris to the cornea, while the posterior chamber extends back between the iris and the hyaloid face. Tr. at 329-30; DX-103B. The iris is made up of colored tissue that extends inward from the walls of the eye and regulates the amount of light that reaches the retina. At the center of the iris is an opening called the pupil. Tr. at 329. Thus, dilation of the pupil is a contraction of the iris in response to the amount of light present. Tr. 329. The tissue area just behind the iris is called the ciliary sulcus, and that just forward of the iris is called the anterior angle. DX-103B.

The natural lens of the eye is located in the posterior chamber of the eye, between the iris and the hyaloid face. It is a crystalline structure that sits in a capsule attached to the ciliary muscle of the chamber, the ciliary body. For a variety of reasons, the natural lens can become cloudy so that light rays cannot freely pass through it. Tr. at 17. This condition is known as a cataract. Tr. at 16. A common treatment is to remove the non-functional lens, Tr. at 17-21,

and to replace it with an artificial lens called an intraocular lens. The natural lens can be removed in one of two ways. In extracapsular surgery, the lens is removed from the capsule while leaving the capsular bag intact, Tr. at 325, whereas in intracapsular surgery, the capsule is removed altogether. Tr. at 326.

2. Intraocular lens devices.

An intraocular lens device ("IOL") is a mechanical device implanted into the eye to replace the natural lens. It consists of an optical portion and support means known as haptics, which are used to attach the IOL to the tissue of the eye. DX-216. The IOL can be placed wholly in the anterior or posterior chambers, or partly in each chamber. Tr. at 618. In every case, however, the optical portion is centered in order to focus light on the retina. If the IOL is to be placed in the posterior chamber, the supports can either be placed in the capsular bag, if extracapsular surgery has been done, or in the ciliary sulcus. Tr. at 325. If it is to be placed in the anterior chamber, the supports can be placed in the anterior angle at the base of the iris. Also, the lens can be supported by attachment to the iris.

IOLs were first used in 1949. Tr. at 23. It was not until the early 1970s, however, that their usefulness increased. This was largely due to pioneer work by Dr. Cornelius D. Binkhorst of The Netherlands. Tr. at 23, 518-82. Various designs were developed and have remained in use even though the materials of which they are composed have changed. The optical portion ("optic") is generally made of polymethylmethacrylate (PMMA"), a plastic. *See, e.g.*, Tr. at 322. The support means, or haptics, have been constructed of such materials as platinum-iridium, nylon, and polypropylene. Tr. at 632-35.

3. Buoyancy

The goal of neutral buoyancy for the IOL, a condition in which the IOL would be weightless in aqueous humor, has been known in the field since at least 1963, when Richard C. Troutman published an article describing an IOL that is made weightless in aqueous humor in order to minimize damage to the iris. Troutman, *Artiphakia and Aniserkonia*, 56 Amer.J. of Ophthalmology 630-39 (1963). PTX-17. Freeman's invention basically involves increasing the buoyancy of existing IOLs by altering the composition of the support means without altering the optical portion of the device.

Buoyancy is the property that makes certain objects float in a fluid. There is an upward buoyancy force on all submerged objects

due to the pressure around them. Tr, at 799. This force is equal to the weight of the fluid displaced by the object. *Id.* There is also a downward gravitational force on the submerged object. The balance of these forces determines how much an object will weigh in a fluid, and whether the object will float or sink.

The net force on the object is determined by the relative densities of the object and the fluid. Density is a measure of mass per unit volume, and can be thought of as a measure of how solid an object is. Thus, even though a porous object such as a sponge and a more solid object such as a metal block may occupy the same volume, the sponge will be less dense, will have less mass, and will weigh less in air.

An object immersed in a fluid will exhibit one of three possible behaviors if unconstrained. If its density is greater than that of the fluid, the object will display negative buoyancy and will sink in the fluid. TR. at 785. If its density is less than that of the fluid, the object will display positive buoyancy and will rise in the fluid. *Id.* If its density is equal to that of the fluid, it will remain stationary and display neutral buoyancy. *Id.*

Specific gravity is a measure of the density of a material relative to the density of water. A material with a specific gravity of 2.0 is twice a dense as water and will tend to sink in it, while a material with a specific gravity of 0.5 is half as dense as water and will tend to rise in it. The density of an object containing many different materials is a function of the specific gravities of the composite materials and the relative amounts of each material. The specific gravity of aqueous humor is approximately 1.0. PTX-6 at 64-69. The specific gravities of the various materials used in IOLs are 1.187 for PMMA, PT at (3)2; 21.6 for platinum-iridium, DX-221; 0.904 for polypropylene, PT at (3)2; and 1.14 for nylon. DX-221.

II. THE PATENT

Freeman claims that he conceived the idea disclosed in his patent when he traveled to Terneuzan, The Netherlands, in March of 1975 to train with Dr. Cornelius Binkhorst. Tr. at 27-28. While there, he observed a juvenile patient whose iris had been damaged by the weight of an intraocular lens. Tr. at 28. Soon thereafter, while driving through a rain storm, he thought of using a lightweight material to relieve the pressure on the iris, hit his thigh, and said "that's it." Tr. at 29. He later wrote down a description of his idea on a page in his personal calendar marked March 7, 1975. PTX-2; Tr. at 30-31. On October 10, 1975, he filed an invention disclosure with the PTO. Invention Disclosure, PTX-4 at 49-52.

On March 15, 1976, Freeman filed a patent application entitled "Neutral Buoyancy Intraocular Lens Device." This application issued as United States Patent No. 4,077,071 ("'071 patent" or "original patent") on March 7, 1978. On May 31, 1979, Freeman filed an application to reissue the patent in which he stated that the '071 patent "may be partially inoperative by reason of the fact that the original patent claims less than I had a right to claim and the scope of the claims may not vary sufficienty in terms of the features disclosed in the original patent to adequately protect the invention. . . ." Reissue Declaration, PTX-6 at 24. McGhan Medical Corporation, a predecessor of 3M, participated in the reissue examination as a protestor. PT at (3)1. The patent reissued as United States Reissue Patent No. 31,640 on August 7, 1984. Claims 1 through 9 were maintained as contained in the original '071 patent and the specification is almost identical to that of the original patent. Freeman filed this suit less than two months after the issuance of the '640 patent.

III. INFRINGEMENT

The Court's infringement analysis follows a two-step process, construing the language of the claims, and then applying the properly construed claims to 3M's accused IOLs. *SRI Int'l v. Matsushita Electrica Corp. of America*, 775 F.2d 1107, 1118 (Fed.Cir. 1985); *Palumbo v. Don-Joy Co.*, 762 F.2d 969, 974 (Fed.Cir. 1985).

A. Claim Construction.

1. Claims 1 and 4

In construing these disputed claims, the Court looks to several factors, including (1) the literal language of the claims, (2) the patent specification, (3) the prosecution history, and (4) the testimony of experts who can aid in interpreting the claims in the same manner as by those skilled in the art. *Loctite Corp. v. Ultraseal, Ltd.*, 781 F.2d 861, 866-67 (Fed Cir. 1985). Claims 1 and 4 of the reissue patent are identical to Claims 1 and 4 of the original patent, and thus the relevant prosecution history is that of the original patent. Examination of the language of the claims at issue is a threshold requirement. *McGill, Inc. v. John Zink Co.*, 736 F.2d 666, 672 (Fed.Cir.) *cert.denied*, 469 U.S. 1037 (1984). In such examination, the terms of the claims will be given their ordinary meaning, unless it appears that Freeman used them differently. *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1579 (Fed.Cir. 1988); *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 759 (Fed.Cir. 1984).

In Claims 1 and 4, Dr. Freeman claims:

1. An intraocular lens device for implantation into a human eye, said lens device comprising:

(a) an optical lens suitable for replacing a human crystalline lens having a mean density greater than that of the aqueous humor of said human eye; and

(b) buoyancy means external of and attached to said optical lens having a mean density less than the density of said aqueous humor for providing a plurality of iridocapsular support points on the posterior surface of the iris of said human eye to hold said optical lens in place when implanted into said human eye and for reducing the overall mean density of said lens device to substantially that of the aqueous humor.

4. The lens device of claim 1 wherein said buoyancy means comprises a plurality of projecting members external of and attached to said optical lens.

Claim 1(a) requires only that the optic portion have a mean density greater than that of aqueous humor, thus having negative buoyancy. Claim 1(b) requires, *inter alia*, the addition of buoyancy means with a mean density less than aqueous humor, thus tending to rise in aqueous humor when not attached to anything. The construction of the remainder of Claim 1(b) and all of Claim 4, since the latter is dependent on Claim 1, is in dispute. The following three phrases need to be examined further: that the buoyancy means be "external of and attached to said lens"; that the buoyancy means provide "irido-capsular support points on the posterior surface of the iris"; and that the buoyancy means "reduc[e] the overall mean density of said lens device to substantially that of said aqueous humor."

a. "External of and attached to said lens"

The issue concerning this phrase is whether an haptic rim or carrier portion which does not serve an optical function but is continuous with an optical portion is "external of and attached to said lens." Dr. Freeman argues that a rim surrounding the optical portion is not covered by the phrase because such a rim is "integral" to the optic, not external to it. 3M contends that any part of the device that does not serve an optical function is covered by the phrase.

Following the *Loctite* analysis, the specification must be consulted. The phrase is not defined in the specification. The embodiment of Freeman's invention pictured in Figures 3 and 4

contains such a rim. The rim of that embodiment is not described in the specification, however, and it is unclear from the specification whether Claim 1 was intended to cover such an embodiment.

The prosecution history and expert testimony make it clear, however, that such a structure would be covered by Claim 1. Freeman's application was initially rejected as anticipated by Troutman's article and as being obvious over a patent by Otter. U. S. Patent No. 3,906,551 (1975). Examiner's Action, PTX-4 at 19. Troutman's article discloses a lens device composed of a lens doublet with an air pocket between the two lenses that makes the entire device weightless. PTX-17. Otter discloses a device with a rim around the optical portion. PTX-8. In distinguishing his invention from Troutman's, Freeman stressed that Troutman's device had "a doublet lens having an integral air space" and that the air space thus performed an "optical function." Amendment, PTX-4 at 26-27. Thus, Freeman was distinguishing buoyancy devices that performed an optical function from buoyancy devices that did not perform such a function.

The idea that the phrase encompasses everything that is not in the optical portion is supported by the standard definition accepted by Dr. Freeman as being valid in 1975 and in 1988. DX-216; Tr. at 93. The optical component is defined as the portion through which light passes, while the haptic component is defines as "[t]he nonoptical components of an intraocular lens that are intended to be supporting members for fixation in the eye. . .A haptic may also be contiguous with the optical portion." DX-216. Thus, a haptic rim or carrier portion, as pictured in Otter's patent, is something distinct from the optical portion and is "external of and attached to said lens."

b. "Irido-capsular"

Claim 1 requires that the buoyancy means provide "a plurality of irido-capsular support points on the posterior surface of the iris." At trial, Freeman broadly defined irido-capsular support as "that support that is furnished within the space that is behind the iris and in front of the capsule." Tr. at 428. 3M contends that irido-capsular support is a narrowly defined term of art describing a type of support wherein the optical portion is in the anterior chamber and the support means extend through the iris into the posterior chamber.

Although a patentee can be his own lexicographer, the words must be used in the same way in the claims and in the specification. *Fonar Corp. c. Johnson & Johnson*, 821 F.2d 627, 632 (Fed.Cir. 1987), *cert. denied*, 108 S.Ct. 751 (1988); *Autogiro Co. of America v.*

United States, 384 F.2d 391, 397 (Ct.Cl. 1967). Thus, when a term's definition is disputed, the Court must examine the specification and prosecution history to determine whether the inventor used the term in a way other than it is ordinarily used. *ZMI Corp.*, 844 F.2d at 1580. Both the specification and the prosecution history support 3M's definition, not the one currently espoused by Freeman. This leads the Court to conclude that 3M's construction of the term is correct and that Freeman did not effectively define the term as he now claims to have defined it.

In the section of the specification entitled "Background Of The Invention," Freeman refers to irido-capsular fixation as a method "whereby the lens is partially supported by the iris as well as the posterior capsular [sic] of the natural lens. In [this] case it would be desirable to utilize a lens of neutral buoyancy to lower the pressure imposed on the fragile iris." '640 patent, Col. 1, lines 57-62. Freeman implies a similar definition when he discusses how some IOLs "are supported only by a few points of contact with the iris which carried the entire weight of the IOL." '640 patent, Col. 1, lines 40-45. These statements serve to limit the use of the term "irido-capsular" to forms of support in which the iris is actually used for support.

The prosecution history should also be consulted when defining terminology. *ZMI Corp.*, 844 F.2d at 1580; *Moeller v. Ionetics, Inc.*, 794 F.2d 653, 656 (Fed.Cir. 1986). Freeman inserted this limitation of "irido-capsular support" in his final amendments in response to the examiner's rejection over the Neefe and Otter patents. Amendment, PTX-4 at 32-34. The Neefe patent, U.S. Patent No. 4,010,496 (1977), PTX-11, discloses an anterior chamber IOL with a carrier portion, similar to that disclosed in the Otter patent, in which buoyancy is created by air pockets in the rim. Freeman sought to avoid the rejection of his claims by arguing that the buoyancy means in his invention give irido-capsular support on the posterior surface of the iris. Amendment, PTX-4 at 41-43. The examiner did not comment on this amendment, but simply approved the claims. Examiner's Action, PTX-4 at 54.

Another influential factor in defining terminology is expert testimony by those skilled in the art. *Moeller*, 794 F.2d at 657. 3M produced several witnesses from various backgrounds who all supported its definition. Dr. Robert Drews, an ophthalmic surgeon who implants IOLs, defined irido-capsular fixation as a type of fixation in which the optic portion is located in front of the iris and the haptics extend through the pupil into the posterior chamber. Tr. at

992-1004. Edward Madsen, a 3M technical and engineering manager who is currently a production manager, provided a similar definition. Tr. at 354-58. Dr. Randall Knoll, a research supervisor at 3M, and Dr. Eugene Goldberg, an expert in ophthalmologic biomaterials, both described this form of fixation as distinctive because the surface of the iris is actually used for support. Tr. at 618-21, 769-71.

The Court concludes that irido-capsular support should be construed as support in which the optic is in the anterior chamber and the supports extend through the pupil to the posterior chamber and are designed to utilize the iris for support. The specification, prosecution history, and expert testimony all lead to this conclusion. Further, the Court notes that Freeman's invention disclosure discusses that there was a need for his invention in order to prevent damage to the iris. Such damage can occur only if the iris is actually being touched and is giving support.

c. "Substantially that of said aqueous humor"

Claim 1 specifies that the buoyancy means "reduc[e] the overall mean density of said lens device to substantially that of said aqueous humor." This language was also added after the final rejection by the examiner. Amendment, PTX-4 at 38-44. Freeman testified that this condition is met when there is any reduction in density caused by using buoyant supports. 3M argues that the claim requires neutral buoyancy and that adding the term "substantially" serves to create a small margin of error such as that from manufacturing tolerances.

The structure of Claim 1 indicates that Freeman's definition is incorrect. The claim requires buoyancy means "having a mean density less than the density of said aqueous humor. . .for reducing the overall mean density to substantially that of said aqueous humor." If the claim were read as Freeman suggests, the phrase requiring a reduction to substantially that of aqueous humor would be redundant and meaningless. Because the use of "buoyancy means" necessarily leads to the reduction of the overall mean density of the IOL, Freeman's interpretation means that the addition of the phrase at issue would not serve to modify the claim at all. Since words in claims should be interpreted to have meaning, especially when added after a final rejection by the examiner, Freeman's definition is incorrect. The specification and prosecution history also support the idea that the phrase requires something close to neutral buoyancy. Although Freeman claims that neutral buoyancy is just a "preferred embodiment" of his invention, and cites two paragraphs in the specification in which he describes his objective as lowering the density to *near* neutral

buoyancy rather than exactly neutral buoyancy, '640 patent, Col. 2, lines 57-68, this is not representative of the specification as a whole.

The title of the original patent was "Neutral Buoyancy Intraocular Lens Device." In the specification, Freeman refers to achieving neutral buoyancy more than a dozen times. He also referred to neutral buoyancy throughout the prosecution history of the '071 patent. The only evidence preferred by Freeman to support his definition was the testimony of George Wright, a former 3M product manager. Wright testified that a lens weighing 1 to 2 mg. in aqueous humor was "essentially neutrally buoyant," Tr. at 741, even though such an IOL was not weightless. However, other witnesses opined that the condition could be satisfied only by making the IOL approximately neutrally buoyant thus making the IOL practically weightless in the aqueous humor.

The Court holds that this limitation requires reducing the density to close to neutral buoyancy, thus creating a condition wherein the lens would weigh near zero in aqueous humor. The specification teaches this concept and Freeman repeatedly emphasized it to the examiner. Further, consideration of the other claims of the '071 patent is instructive, *McGill*, 736 F.2d at 675, in that Claim 7, the only other independent claim, refers to "reducing the overall mean density of said lens device to approximately that of said aqueous humor." This further indicates that something close to neutral buoyancy is required.

2. Claims 10, 11, 21, and 22

In these claims, Freeman claims:

10. An intraocular lens device for implantation into a human eye, said lens device comprising:

an optical lens suitable for replacing the human crystalline lens, said optical lens having a mean density greater than the density of the aqueous humor of the human eye; and

support means attached to said lens for providing a plurality of support points at least within the posterior chamber of the human eye to hold said optical lens in place when implanted into the human eye, said support means having a density less than the density of the aqueous humor of the eye for providing at least a degree of buoyant uplift to said optical lens when said intraocular lens device is implanted into the human eye.

11. The lens device of claim 10 wherein said support means comprises:

a plurality of loop members formed from a material having a density less than the density of the aqueous humor of the human eye.

21. An intraocular lens device for implantation into the human eye, said lens device comprising:

an optical lens suitable for replacing a human crystalline lens, said optical lens having a mean density greater than the density of the aqueous humor of the human eye; and

buoyancy means external of and attached to said optical lens, said buoyancy means comprising a plurality of members having a density less than the density of the aqueous humor of the human eye and said buoyancy means adapted to extend within at least one of the anterior and posterior chambers of the human eye for providing at least a degree of buoyant uplift for the optical lens when the intraocular lens device is implanted into the human eye.

22. The lens device of claim 21 wherein said buoyancy means comprises:

a plurality of members formed from a material having a density less than the density of the aqueous humor of the human eye.

These claims are structured similarly to Claim 1 in that they require a high density optic and either buoyancy means or buoyant support means. The two disputed limitations again relate to the buoyancy condition and to the positioning of the support structure.

a. Support Positioning

Claim 10 requires buoyant "support means attached to said lens for providing a plurality of support points at least within the posterior chamber of the human eye." This claim, and thus dependant Claim 11 as well, does not cover anterior chamber IOLs since they offer no support in the posterior chamber.

Claim 21 requires "buoyancy means adapted to extend within at least one of the anterior and posterior chambers." This claim, and thus dependant Claim 22 as well, clearly covers all anterior and posterior chamber lenses. 3M argues that this covers all IOLs since all have support means extending into one of the chambers. Freeman, on the other hand, argued to the PTO and to this Court that iris-plane lenses are not covered by this limitation because they provide support in the "plane" of the iris. He did so in his attempt to avoid a rejection for reissue recapture by pointing out a new limitation on his claim.

The Court concludes that the support language of Claim 21 indicates that it covers all IOLs. Freeman argues that the Implens 24, PTX-26, a 3M iris-plane lens, does not infringe Claim 21 because it furnishes its support in the plane of the iris. The description of that lens, however, refers to anterior and posterior haptics. PTX-26. Claim 21 requires that the buoyancy means "extend into" a chamber. Clearly, if buoyancy means extend through the pupil onto either side of the iris, they are present in one or the other chamber. Neither the specification nor the prosecution history nor any expert testimony alters this conclusion.

b. "At least a degree of buoyant uplift"

The phrase "buoyant uplift" was used in the reissue patent rather than the phrase "reducing the overall mean density of said lens device to substantially that of said aqueous humor." Freeman's final amendment to his reissue application was to add the phrase "at least a degree of" to modify "buoyant uplift." Amendment, PTX-6 at 124. Most of the trial involving interpreting this phrase and attempting to distinguish it from the language of Claim 1.

The phrase "at least a degree of buoyant uplift" is not a term of art. Freeman argues that the phrase means the result of adding any amount of buoyant support materials, thus reducing the density and weight of the device by any amount, even if the reduction is not to a state of neutral buoyancy. 3M, on the other hand, argues that an object with buoyant uplift must possess neutral or positive buoyancy. It further contends that the phrase "at least a degree of" means a small amount of buoyant uplift, rather than meaning something that changes the definition of the term "buoyant uplift."

The specification is not an aid in defining this term because the term is not present in it. Both interpretations, however, have potential bases of support in the specification. Freeman's interpretation that achieving neutral buoyancy is not necessary is supported by the two paragraphs of objectives which discuss reducing the weight. It is also supported by the fact that the title of the patent was changed from "Neutral Buoyancy Intraocular Lens Device" to "Buoyancy Intraocular Lens Device." 3M's interpretation is supported by the many references to neutral or near buoyancy found throughout the specification, which remains essentially unchanged from the original patent.

The prosecution history sheds some light on the situation, but also does not reveal a clear definition. Freeman argued throughout the prosecution, from the time of his reissue declaration to when the claims were approved, that the prior art did not require neutral

buoyancy because his invention was the use of low density supports to reduce the weight. During the prosecution, Freeman never defined the term "buoyant uplift" or how "at least a degree of" modifies it, stating only that it defined his inventive concept better than had the language of his original claims. 3M's position in the PTO was different from its current position. In the PTO, 3M argued that the reissue application should be denied under a variety of doctrines because "buoyancy uplift" does not create the limitation that there be neutral buoyancy, as did Claim 1 and the specification. 3M now claims that "buoyant uplift" requires at least neutral buoyancy and that the examiner's opinions reflect this.

The examiner never clearly defined "buoyant uplift". The clearest statement he made was that no structural difference was made by adding the phrase "at least a degree of", because something that possesses buoyant uplift must possess at least a degree of the same. Examiner's Action, PTX-6 at 208. The examiner's final conclusion was that the phrase means something more than just reducing the overall mean density of the device. Tracing the examiner's opinions is instructive.

In his initial office action, Paper 11, the examiner stated that the effect of adding the phrase "buoyant uplift" was that the "only a *degree of buoyancy* has been changed to a *broader* aspect". Examiner's Action, PTX-6 at 85 (emphasis in original). In his final office action, paper 31, the examiner allowed the claims. Examiner's Actions, PTX-6 at 205. He stated that an object with a density less than or equal to the density of a fluid would tend to be weightless and "would possess a 'buoyant uplift' rather than seek a position at the lower most level in the fluid. . . .By definition 'buoyancy' or 'buoyant' means something that floats or has the ability or tendency to float or rise in liquid or air and therefore, exhibits *upward pressures* or *uplift* in the fluid." *Id.* at 208 (emphasis in original). He then stated "This 'second limitation' [that of providing at least a degree of buoyant uplift] in the Reissue claims is certainly more restrictive than cancelling original claim 1 [claiming that it reduces the overall means density], yet broader than the corresponding 'second limitation' in patent claim 1 [reducing the density to substantially that of aqueous humor]." *Id.* at 212. The examiner further distinguishes "reducing the overall mean density" from "buoyant uplift" by stating that a reduction in density does not require any buoyant uplift and that one can reduce the density without giving a degree of buoyancy. *Id.* at 215. These statements all suggest that the examiner believed that one does not produce buoyant uplift solely by reducing the density. Yet he also stated that "buoyant uplift" was a broader limitation than in Claim 1

and thus did not require neutral buoyancy. Since these statements do not accurately define what buoyant uplift means, the testimony of the expert witnesses must be considered.

Freeman offered Dr. Ain Sonin, an MIT mechanical engineering professor, as a technical expert on fluid mechanics. Dr. Sonin testified that if the optic has negative buoyancy and the supports have positive buoyancy then the supports give "a degree of buoyant uplift" to the optic. Tr. at 189. He defined buoyant uplift as meaning the same thing as positive buoyancy. Tr. at 192. However, he stated that the support structure adds a *degree* of buoyant uplift to the lens, even though the lens still sinks, because the submerged weight of the system is less with the support structure. Tr. at 195-96. He further stated that a degree of buoyant uplift is provided if a change is made from negative buoyancy to a less negative buoyancy. Tr. at 197. Sonin thus viewed "buoyant uplift" as meaning something different than "a degree of buoyant uplift", contrary to the examiner's statements that there are no structural differences between the two phrases. Examiner's Action, PTX-6 at 208.

3M's technical expert, Dr. Richard Goldstein of the University of Minnesota, agreed with Dr. Sonin that an IOL has buoyant uplift if it tends to rise or float. Tr. at 793-94. He disagreed, however, with Dr. Sonin's statements that a support can provide buoyant uplift by making the system less negatively buoyant. Goldstein stated that a polypropylene support could provide buoyant uplift to the lens only if the net upward force is positive. Tr, at 793. Dr. Goldstein believed that the addition of the phrase "at least a degree of" was an expression of quantity, indicating that any amount of buoyant uplift would be covered.

3M's position is supported by the fact that the examiner did not feel that "a degree of" altered the meaning of "buoyant uplift". Furthermore, Freeman's interpretation reads the phrase totally out of the claim and makes the phrase redundant. Freeman's interpretation requires solely the addition of a buoyant support means. This condition is already required, however, by the use of the phrases "buoyancy means" in Claim 21 and "support means having a density less than the density of the aqueous humor" in Claim 10. 3M's legal expert, Donald Chisum, opined that 3M's interpretation was correct because it gave meaning and substance to the claim. Tr. at 1030.

The Court holds that 3M's interpretation is the correct meaning of the phrase. Thus, "buoyant uplift" requires at least neutral buoyancy. This view is supported by the specification and the examiner's belief that reducing the density did not necessarily provide

buoyant uplift. This interpretation also gives meaning to the claims.

B. 3M'S ACCUSED IOLS

Freeman has the burden of proving infringement by a preponderance of the evidence. *Lemelson v. United States*, 752 F.2d 1538, 1547 (Fed.Cir. 1985). Literal infringement occurs where every limitation of a patent claim may be found in the accused structure. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1054 (Fed.Cir. 1988); *Loctite*, 781 F.2d at 872. Freeman alleges that his patent is infringed by 3M Styles 20, 40, 45, 47, 50, 55, 56, 80, 30-30L, 34-34L, 70, 80-81, 83-83L, and 11L. PTX-24, 27, 29-33, 36, 69-73, 90. All of the accused IOLs have optics made of PMMA, a material with a density higher than that of aqueous humor. Furthermore, all of the accused IOLs have support means (loops) made of polypropylene, a material with a density less than that of aqueous, thus disqualifying as a buoyancy means.

1. Claims 1 and 4

An IOL that literally infringes Claim 1 must have an optical portion with a density higher than aqueous, buoyancy means that provide irido-capsular support, and an overall mean density substantially that of aqueous humor. Styles 20, 40, 45, 50, 55, and 56 are irido-capsular IOLs and thus meet that limitation. Tr. at 354-358. Style 70, however, cannot literally infringe Claim 1 because it is an anterior chamber lens and thus provides no support in the posterior chamber at all. Styles 11L, 30-30L, 34-34L, 80-81, and 83-83L also cannot literally infringe Claim 1 because these lenses are posterior chamber lenses which provide no irido-capsular support.

None of the accused lenses literally infringe Claim 1 because none meet the limitation that the overall mean density be reduced to substantially that of the aqueous humor. Such a condition would mean that the accused structures would be approximately weightless in aqueous humor. All of the accused lenses weigh between 1.0 and 2.9 mg. in aqueous humor. *See* PTX-65. While this is a reduction from their weights in air, none literally infringe the claim because none are approximately weightless.

Claim 4 is dependent on Claim 1 and requires that the buoyancy means comprise a "plurality of projecting members external of and attached to said optical lens." All of the accused structures have at least two projecting support loops composed of polypropylene, and consequently meet this condition. However, since none of the accused IOLs literally infringe independent Claim 1, they cannot literally

infringe dependent Claim 4.

Freeman argues that the non-irido-capsular lenses infringe Claims 1 and 4 by the doctrine of equivalents. To prove this, he would have to prove that they performed substantially the same function in substantially the same way to achieve the same result. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605 (1950); *Thomas & Betts Corp. v. Litton Systems, Inc.*, 720 F.2d 1572, 1579 (Fed.Cir. 1983). Freeman did not proffer any specific evidence of equivalents and thus cannot prove infringement. Furthermore, none of the 3M lenses could possibly infringe because none has a density substantially the same as that of aqueous humor and could not possibly achieve the same result as Freeman's invention.

2. Claims 10, 11, 21, and 22

Claim 10 requires that the supports extend at least into the posterior chamber. Therefore, because Style 70 is an anterior chamber lens, it cannot infringe Claim 10 or dependant Claim 11. All of the other 3M IOLs meet the support structure limitations of Claims 10 and 11 because they have a plurality of loop members in the posterior chamber that are formed from polypropylene, a buoyant material. Furthermore, all of the IOLs meet the structural limitations of Claims 21 and 22 because all of them have support means extending into the anterior or posterior chamber that are formed from polypropylene.

None of the IOLs infringe any of the reissue claims, however, because none of them have support or buoyancy means that provide at least a degree of buoyanct uplift to the lens. Because all of the IOLs weigh more that 1.0 mg. in aqueous humor, *see* PTX-65, none possess any buoyant uplift and thus none can literally infringe Claims 10, 11, 21, and 22.

If the Court were to construe these claims broadly, as Freeman desires, to cover any reduction in weight due to the addition of buoyancy means, then all of the IOLs would infringe Claims 21 and 22, and all but Style 70 would infringe Claim 10 and 11. This is because all of the IOLs use polypropylene as a support material. However, because the Court has found this construction of the claims to be improper, none of the IOLs infringe claims 10, 11, 21, or 22.

Because the Court finds that 3M has not infringed any of the claims at issue, no discussion of intervening rights under 35 U.S.C. § 252 (1982) is warranted.

IV. VALIDITY

Freeman's patent is presumed valid, and 3M has the burden of establishing invalidity. 35 U.S.C. § 282 (1982). This presumption can be rebutted only by facts constituting clear and convincing evidence. *Loctite*, 781 F.2d at 861; *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360 (Fed.Cir.), *cert.denied*, 469 U.S. 821 (1984).

A. Anticipation

1. Effective Date

Freeman asserts that he invented the subject matter of the patent in March of 1975. He did not file an application with the PTO until March 15, 1976. The examiner rejected Freeman's original application in light of the Neefe patent, which was filed October 1, 1975. In order to overcome this rejection, Freeman filed a Rule 131 Affidavit, 37 C.F.R. § 1.131 (1987), stating that his date of invention was prior to October 1, 1975. Declaration Under Rule 131, PTX-4 at 45. The examiner removed Neefe from the prior art under consideration as a result of the affidavit.

The examiner's acceptance of Freeman's Rule 131 Affidavit is not binding on this Court. *Laminex v. Fritz*, 389 F.Supp. 369, 383 (N.D. Ill. 1974). A patentee has the burden of proving, by clear and unequivocal evidence, that the invention was both conceived and reduced to practice before the application date. *Polaroid Corp. v. Eastman Kodak Co.*, 641 F.Supp. 828, 862 (D.Mass.), *aff'd*, 780 F.2d 1556 (Fed.Cir.), *cert. denied*, 107 S.Ct. 178 (1986); *Mathis v. Hydro Air Indus., Inc.*, 1 U.S.P.Q.2d 1513, 1524 (C.D. Ca. 1986). Thus, the Court must review Freeman's declaration and any evidence presented to support it.

Rule 131 states that Freeman can remove Neefe as a reference by filing an "oath or declaration as to facts showing a completion of the invention in this country before the filing date of the application on which the [Neefe] patent issued." 37 C.F.R. § 1.131(a) (1987). The facts in the affidavit must "establish reduction to practice prior to the effective date of the reference, or conception of the invention prior to the effective date of the reference coupled with due diligence from said date to a subsequent reduction to practice or to the filing of the application." 37 C.F.R. § 1.131(b) (1987).

Freeman filed his Rule 131 affidavit on August 19, 1977, basing it on a page of his calendar. Declaration Under Rule 131, PTX-4 at 45. Freeman claimed that he described his invention in the calendar,

PTX-2, prior to October 1, 1975, and his secretary typed the notes. He then discussed his invention with his colleagues and eventually filed a disclosure document with the PTO on October 10, 1975. He contacted his patent attorney in January of 1976, and the patent application was delayed by his attorney's vacation. The application was finally filed March 15, 1976, one full year after Freeman claims that he conceived the invention.

Freeman never reduced his invention to practice prior to filing his original application. Tr. at 106. Therefore, Freeman must prove by clear and convincing evidence conception prior to October 1, 1975, and due diligence from then until March 15, 1976. Freeman offered no evidence of due diligence. He argued only that his attorney was on vacation. But it was nine months after his reputed conception before he requested that his attorney file an application, and he filed his application six months after his original disclosure to the PTO. Freeman has not properly "account[ed] for the entire critical period by showing either activity aimed at reduction to practice or legally adequate excuses for inactivity." 3 D. Chisum, *Patents*, § 10.17 (1987). Therefore, the effective date of the patent is the date of application, March 15. 1976.

2. The Neefe Patent

The Neefe patent, U.S. Patent No. 4,010,496 (1977), discloses an anterior chamber lens with an anterior carrier rim and loops extending into the posterior chamber. PTX-11. Neefe's invention is a bifocal lens which is positioned within the anterior chamber by using an air pocket in the carrier rim. In the specification, Neefe states that "[t]he air pocket 1 provides buoyancy to make the lens weightless in place. Several small air pockets may be placed around the edge of single vision lenses to achieve a no inertia effect." Neefe patent, Col. 2, lines 3-6. This embodiment contains support means consisting of loops and the carrier rim. Tr. at 985-86. The air pockets provide buoyant uplift, reducing the overall mean density to that of aqueous humor. The air pocket is not in the optic field and thus is a haptic by definition. DX-216; Tr. at 984. Furthermore, the fact that the carrier portion is used to prevent subluxation, Col. 2, lines 2-3, and to position the lens, Col. 2, line 5, indicates that it is a support means. Finally, because the device is rendered weightless, the supports must have an overall mean density less than that of aqueous humor.

Section 102(e) of the patent laws states that a patent should not be issued if "the invention was described in a patent granted on an application for patent by another filed in the United States before the

invention thereof." 35 U.S.C. § 102(e) (1982). Because the effective date of the '640 patent is March 15, 1976, and Neefe's application was filed October 1, 1975, the Neefe patent is prior art. However, a claim is anticipated only if each and every element as set forth in the claim is found identically described in a single prior art reference. *Diversitech Corp. v. Century Steps, Inc.*, 7 U.S.P.Q.2d 1315, 1317 (Fed.Cir. 1988). The elements of each claim must be examined before a conclusion of anticipation is warranted.

The buoyancy means of the Neefe patent is the air pocket placed in the carrier rim. Because this air pocket does not supply irido-capsular support on the posterior surface of the iris, the Neefe patent does not anticipate Claims 1 or 4. Furthermore, the Neefe patent does not anticipate Claims 11 or 22 because it does not refer to the support material at all and it thus does not specifically disclose low density material. The Neefe patent also does not anticipate Claim 21 because the buoyancy means does not have a plurality of members.

Claim 10 is anticipated by the Neefe patent. The support structure of Neefe consists of the carrier rim and the loops. This is a "support means attached to said lens." The support means has loops in the posterior chamber and thus provides "a plurality of support points at least within the posterior chamber of the human eye to hold said lens in place." The support means as a whole have a "density less than the density of the aqueous humor." Finally, because the air pockets make the lens weightless, the support means provides "at least a degree of buoyant uplift." Therefore, Claim 10 is invalid because it was anticipated by the Neefe patent. 35 U.S.C. § 102(e) (1982).

3. The Barraquer Article

The Barraquer Article, DX-60-61, is an article by Joaquin Barraquer entitled "Nuevos Modelos De Lentes Plasticas De Camara Anterior" ("New Models of Plastic Lenses of the Anterior Chamber") published in 2 *Anales del Instituto Barraquer* 345 (1961). Barraquer discussed different models of plastic anterior chamber lenses. In his overview, he stated that the lens should possess "as low a weight as possible." DX-61 at 1. In Figure 15, he proposed a lens in which "the support part is constructed through injection of polyethylene into an adequate mould [sic]. . . .There are still unresolved difficulties in the injection of the mould [sic] in perfecting this model." DX-61 at 6. In the text, he stated that "the model represented in Figure 15, would be among the best if the injection technique could be perfected. . . .Moreover, all the models with an elastic [such as polyethylene] support have the advantage, in addition to their weight. . . ." DX-61

at 3. Polyethylene has a mean density less than that of aqueous humor. PT-(3)5. Thus, the Barraquer article advocates the use of a buoyant support means which, among other things, reduces the weight of the structure. 3M claims that this is a printed publication more than one year prior to the date of the application, which anticipates Freeman's patent. 35 U.S.C. § 102(b) (1982).

Freeman argues that the article is nonenabling and inoperative. A reference cannot anticipate an invention unless it is enabling, *In re Donohue*, 766 F.2d 531, 533 (Fed.Cir. 1985), and operative. *U. S. v. Adams*, 383 U.S. 39, 50 (1966) (an inoperative invention or one which fails to achieve its intended result does not negative novelty). Because references are presumed to be operable, *In re Sasse*, 629 F.2d 675, 681 (C.C.P.A. 1980), Freeman has the burden of proving that there was no operable technique for making polyethylene supports or that polyethylene itself was an inoperable material. *In re Jacobs*, 318 F.2d 743, 745-46 (C.C.P.A. 1963).

In support of his claim, Freeman produced a letter from Barraquer stating that he never went beyond an experimental stage with the design of Figure 15. PTX-44. Freeman drew many inferences from the fact that although polyethylene is one of the oldest and least expensive polymers, it has never been used in a commercial IOL. Tr. at 922, 932, 937, 955-56. He also offered the testimony of Dr. Christine Kreiner of Adatomed, GmbH, of Munich. She testified that polyethylene is inoperable as a support material because it has a crystalline structure and because it proved inoperable as a suture material. Tr. at 916-17, 924. Freeman did not offer any proof that one of ordinary skill in the art could not injection-mold the structure of Figure 15 in 1975.

3M effectively countered this testimony. Concerning whether the Barraquer article is enabling, Irwin Rubin, an expert in injection molding, prepared a mold, injection-molded an IOL with Polyethylene supports by following the drawings in the Barraquer article, DX-251-52, and testified that one skilled in the art could easily have done it in 1975. Tr. at 826-27, 830-31, 835-36. Roger Laugerquist, a 3M engineer, also constructed one. DX-226; Tr. at 418-420. Dr. Eugene Goldberg testified that the article was enabling. Tr. at 658.

3M also refuted Freeman's assertion that polyethylene is inoperable as a support material. Freeman did not offer any publications to support his theory of inoperability, relying solely on Dr. Kreiner's testimony. Dr. Goldberg, an expert in biomaterials, testified that in 1975, polyethylene was suitable and operable as a support material. Tr. at 658. He stated that polyethylene and

polypropylene sutures have similar properties and he offered several articles demonstrating that polyethylene had the correct properties for use in IOLs. Tr. at 650-51; DX-107, 115, 117. In addition to presenting this expert, 3M argued that Dr. Kreiner had not considered the proper time frame; she did not even know when the patent was filed. Tr. at 934. 3M also argued that Dr. Kreiner's definition of operability was too expansive, as she used it to mean any form of unacceptibility such as the materials being too heavy. Under her definition, even frequently used materials such as nylon are inoperable. Tr. at 933.

The Court finds that the Barraquer article is valid prior art. Freeman has not proven that the article is nonenabling or that polyethylene is inoperable in a patent law sense. The article does not anticipate Freeman's claims, however, because nowhere in the article is there a teaching of neutral buoyancy, an element required by all of the claims at issue. The article would read on Freeman's invention if the Court had adopted Freeman's contention that "at least a degree of buoyant uplift" means the addition of any amount of low density support material. The embodiment of Figure 15 would anticipate Claims 21 and 22 because it has a high density optic combined with support means comprising a plurality of members made of a material with a density less than that of aqueous humor. The Article would not anticipate Claims 1, 4, 10, or 11 because the article refers only to anterior chamber lenses, and these do not provide irido-capsular support or extend into the posterior chamber, and it also would not anticipate Claims 1 and 4 because it does not teach substantial neutral buoyancy.

The Court notes that this article is valid prior art for the purpose of the Court's inquiry into nonobviousness, and that it would be even if it were not available as an anticipating reference. *Paperless Accounting, Inc. v. Bay Area Rapid Transit System*, 804 F.2d 659 (Fed.Cir. 1986), *cert. denied*, 107 S.Ct. 1573 (1987); *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, 748 F.2d 645, 652 (Fed.Cir. 1984).

4. Russian Protocol

3M claims that an Extract from the Record of Clinical Conference No. 2 of the Moscow Experimental Laboratory for Experimental Eye Surgery (now the Moscow Eye Institute) held on April 15, 1974, anticipates the patent. DX-50-51. The Extract ("Russian Protocol") is alleged to be a document, in Russian, on a shelf in the library of the Moscow Eye Institute in Moscow. The

report is a one-page document entitled "Technology of making of experimental batch of IOLs with the loops made of polypropelene [sic]." DX-51. The report, written by T. L. Klimova, MD, scientific secretary of the conference, states, "It might be worthwhile to make loops of polypropelene [sic] since its specific gravity is not significant, and a lens with such loops can be weightless in the anterior chamber aqueous humor." *Id.* The report goes on to state that an experimental batch of 150 lenses had been made, that Dr. Zakharov had implanted 24 IOLs with polypropylene, and that Dr. Fyodorov had also implanted the lenses.

For this Protocol to anticipate Freeman's patent, 3M "must show that prior to the critical date [March 15, 1975] the reference was sufficiently accessible, at least to the public interested in the art, so that such a one by examining the reference could make the claimed invention without further research or experimentation." *In re Hall*, 781 F.2d 897, 899 (Fed.Cir. 1986). The crucial issue concerning the Russian Protocol is whether it meets the standards for public accessibility, so that the granting of the patent led to the "withdrawal by an inventor, as the subject matter of the patent, of that which was already in the possession of the public." *In re Wyer*, 655 F.2d 221, 226 (C.C.P.A. 1981). The Court's inquiry will focus on "whether interested members of the relevant public could obtain the information if they wanted to." *Constant v. Advanced Micro-Devices*, 848 F.2d 1560, 1569 (Fed.Cir. 1988).

3M relies for proof of accessibility on recent photographs of the Protocol and the library, DX-47-49, on the deposition testimony of Dr. Fyodorov, the head of the Institute and organizer of its library, DX-264 at 8-12, and on an affidavit by a librarian. Fyodorov testified that he was at the conference, that the report was given to a librarian, and that it was indexed and shelved shortly after the conference. He said that the library had an "open-door" policy and was accessible even to foreigners. DX-164 at 13-14. Fyodorov recalled visits to the Institute by foreign doctors, including Miles Galin in the early 1970s. DX-264 at 41-42. Dr. John Alpar stated that he visited it in 1974. Tr. at 558-59. Freeman stated that he traveled to Moscow in 1981 to meet with Fyodorov to discuss radial keratotomy, not IOLs. DX-237 at 528-29.

Freeman's arguments attack the authenticity of the evidence and the lack of any first-hand, credible evidence that the Protocol was accessible in 1975. He points out that Dr. Fyodorov did not prepare the notes, PTX-107 at 55, and that there are no photographs or other evidence of what the institute was like in 1975. Freeman then presented several live witnesses who had no personal knowledge of the

library or the Protocol but are experts on the Soviet research system as a whole. Boris Rivkin and Vladimir Shlapentokh, both Soviet expatriots, testified about a uniform system under which no foreigner could simply drop in on the libraries of research institutes. They testified that the period of 1974-75 was a closed period when guards were even put at the entrances of institutes. Tr. at 1194, 1232. Furthermore, a State Department official testified that the process of obtaining a visa to visit the Soviet Union is arbitrary and unpredictable. PTX-106 at 9-10.

3M has not demonstrated by clear and convincing evidence that the Protocol was publicly accessible. There is no reliable evidence that the library was open to the public in 1975, nor is there any evidence that the Protocol was actually indexed and shelved in the library in 1975. Although "competent evidence of the general library practice may be relied upon to establish an appropriate time when a thesis became accessible," *In re Hall*, 781 F.2d at 899, such a showing was not made. The Protocol shelf in the library shows three books of Protocols with the dates starting in 1974. DX-48. Since the disputed Protocol is from 1974, a more reliable inquiry would thus concern when the library began indexing and shelving the Protocols. No showing of the results of such an inquiry was made. Finally, although evidence was offered to show that Drs. Freeman, Galin, and Alpar visited the Institute, there is no testimony by any of them that they actually visited the library. There is not clear and convincing evidence of the accessibility of a one-page document in a library in an Institute in Moscow such that it would anticipate Freeman's patent under Section 102(b).

5. Morcher Brochure

3M claims that an undated brochure from Kurt A. Morcher of Stuttgart, West Germany, also anticipates Freeman's claims. The brochure has printing in German and English and states: "The intraocular lenses produced by us, crowned with success since [sic] many years, are the result of twenty years research and skill. . . .The lens itself is made of acrylglass and the loops are made of polypropylene. Lens weight average value in aqueous 1,0 mg. . . .They are sterilized according to Dr. F. Ridley during three hours in 10% NaOH at 30 [degrees] C and stored in 0,1% NaOH." DX-37. The brochure also contains photographs of six types of lenses and states that they are "nach Dr. C.D. Binkhorst" (after Dr. Binkhorst). DX-37. The brochure contains no date.

3M attempted to date the brochure by showing that it was

accessible to the public in 1974. *See In re Hall*, 781 F.2d at 899. 3M claims that the brochure was available at an International Congress held in Paris in 1974. Drs. Hirschman, Alpar, and Choyce all attended that conference. DX-36. Each recounted stories about events that occurred at the time of the Congress. Dr. Alpar recalled that it was his first conference in Paris and that he met his mother and other relatives there. Tr. at 546. Dr. Choyce recalled the facility at which the conference was held. DX-259 at 18-23. Dr. Hirschman testified that he delivered a paper at the Congress. Tr. at 678.

Drs. Alpar, Choyce, and Hirschman all claim to have picked up the Morcher brochure at a booth at the conference, although none of them produced any record showing when they received it. Tr. at 549-50, 679; DX-259 at 16-22. Only Dr. Alpar kept his copy. Tr. at 551. The brochures were said to be distributed by Moria-Dugast, a French company that distributed Morcher IOLs. DX-262 at 6-11. Dr. Alpar also claims to have purchased Morcher IOLs at the conference. Tr. at 553.

Freeman challenges the Morcher brochure as a reference because it is undated. He claims that recollection testimony of events occurring fourteen years ago is insufficient to establish a date for a reference, and that there is no corroboration of any of the doctors' actually acquiring the brochure in 1974. He also claims that other evidence proves that the brochure could not have been available in 1974 at the conference.

The brochure states that the IOLs "are sterilized according to Dr. F. Ridley during three hours in 10% NaOH at 30 [degrees] C and stored in 0,1% NaOH." DX-37. Freeman demonstrated that Morcher did not know about the three-hour method of sterilization, the modified Ridley technique, until at least 1976. Dr. Binkhorst testified that he informed Morcher of this technique and that he had learned of it from Miles Galin, who had originally published an article on it in 1979. PTX-98 at 18-19; PTX-47. Freeman also produced an affidavit by Morcher, not taken before a notary but written in front of Freeman's wife, who corroborated it, stating that Binkhorst told Morcher about the three-hour method in 1976 or later and that he definitely did not know of the modified Ridley technique in 1974. PTX-42. There is no other direct evidence from the Morcher family, who live in West Germany, because they refused to testify or be deposed. Tr. at 1129.

Freeman also produced two package inserts from Morcher IOLs which demonstrate that it is doubtful that the Morcher brochure was available in 1974. A 1976 package insert, verified by the date on a reference in a footnote, stated that one-hour sterilization was being

used at that time. PTX-92. A 1983 package insert, on the other hand, specified wet sterilization according to the modified method of Ridley. PTX-96. Furthermore, although the 1983 insert states that the IOLs were available with either PMMA or polypropylene supports, the 1976 insert specifies that IOLs are available with Supramid (nylon), titanium, or platinum-iridium wire supports.

The Court finds that the Morcher brochure does not anticipate Freeman's patent. Although trade literature can be a printed publication, *see In re Bayer*, 568 F.2d 1357, 1361 (C.C.P.A. 1978), 3M has not established through clear and convincing evidence that the brochure was available in 1974. Both the evidence concerning the sterilization techniques and that of the variety of lenses are sufficient to cast doubt on the date of accessibility of the brochure.

6. Public Use

3M also claims that Freeman's invention is anticipated because it was "in public use. . . .more than one year prior to the date of the application for patent in the United States." 35 U.S.C. § 102(b) (1982). Dr. Henry Hirschman obtained IOLs from Dr. Fyodorov and from Miles Galin. Tr. at 684-85. He implanted a Fyodorov Style-II IOL on August 22, 1974, in the ordinary course of his practice and presented photographs of the patient's eye with the IOL implanted, DX-78, and the patient's history. DX-83. He also implanted an IOL in the eye of another patient, DX-79 (photograph), but the records were destroyed. Tr. at 699-701. Hirschman was advised that the loops of the IOLs were made of polypropylene. Tr. at 698. However, Hirschman did not disclose in the patient history that the loops were polypropylene. DX-83. Furthermore, he said that he did not know for certain whether they contained polypropylene because a chemical analysis would be necessary to determine this. Tr. at 682. In addition, he said that he believes now that the loops were composed of polypropylene because he read Dr. Fyodorov's deposition in which Fyodorov said that loops that are blue are composed of polypropylene. Tr. at 704.

A nonsecret use of a claimed invention for commercial purposes is a public use. *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1549 (Fed.Cir. 1983), *cert. denied*, 469 U.S. 851 (1984). An experimental use does not bar a patent. *TP Laboratories, Inc. v. Professional Positioners, Inc.*, 724 F.2d 965 (Fed.Cir.), *cert. denied*, 469 U.S. 826 (1984). The IOLs that Hirschman implanted supposedly came from the "experimental batch" noted in the Russian Protocol, were implanted in his normal practice, but were not even described in

the patients' histories as being composed of a new material. If indeed the IOLs contained polypropylene, Hirschman did not know this for certain and he did not disclose it to anyone. 3M has not presented clear and convincing evidence that Hirschman publicly used IOLs with polypropylene supports before March 15, 1975. Therefore, Freeman's patent is not anticipated by any public use. Assuming, *arguendo*, that 3M did present clear and convincing evidence that Hirschman implanted IOLs with polypropylene loops in 1974, Freeman's patent would be invalid only under Freeman's interpretation, not under the Court's, because neutral buoyancy was not evident in the IOLs supposedly implanted.

7. Public Knowledge

The final ground of anticipation alleged by 3M is public knowledge by Drs. Alpar and Hirschman in this country. 35 U.S.C. § 102(a) (1982). For knowledge to anticipate an invention, it must be knowledge in this country of a complete and operative device, *Johnson & Johnson v. W. L. Gore & Assoc., Inc.*, 436 F. Supp. 704, 710 n.6, (D.Del. 1977), and the knowledge must be accessible to the public. *In re Bass*, 474 F.2d 1276 (C.C.P.A. 1973). This alleged knowledge could only anticipate Freeman's claims under Freeman's interpretation of buoyant uplift, not the Court's, because the doctors claim only knowledge of the use of polypropylene in IOLs, not of a neutrally buoyant IOL. Again, 3M has failed to meet its burden.

Dr. Alpar claimed that he obtained Morcher Type I, II and VI IOLs at the 1974 Conference in Paris, and that he implanted them in this country in 1974. Tr. at 553-56. He visited Fyodorov in 1974 and learned that he used both nylon and polypropylene loops. Tr. at 558-59; DX-164 at 40-41. Although all of the IOLs that he received from Morcher had clear loops, Morcher told him that the batch contained loops composed of both nylon and polypropylene. Tr. at 555. Alpar also claimed to have placed an order for iris-clip and irido-capsular IOLs in October of 1974. DX-35; Tr. at 556.

Alpar's knowledge is insufficient to invalidate the patent. The Court has already held that the Morcher brochure is not valid prior art. That Dr. Alpar received IOLs of a certain style does not bear on the material used. In fact, Alpar claimed to have received two types, neither of which had the characteristic blue loops. Furthermore, he did not make his knowledge public. Dr. Hirschman's knowledge was questioned previously. 3M has not established with clear and convincing evidence that the invention was known in 1974 at the time of the Paris Congress. Even assuming *arguendo* that such evidence

has been presented, the claims would not be invalid because neutral buoyancy was not noted. The claims would, however, be invalid under Freeman's interpretation.

B. Obviousness

3M contends that Freeman's patent is also invalid because the subject matter "would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." 35 U.S.C. § 103 (1982). The Court's inquiry into nonobviousness requires the examination of the scope and content of the prior art, the difference between Freeman's claims and the prior art, and the level of ordinary skill in the pertinent art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). Secondary considerations of nonobviousness such as commercial success, long-felt but unresolved need, failure of others, and copying, should be considered if present. *Id.* at 17-18; *Uniroyal, Inc.*, 837 F.2d at 1050.

1. Person of Ordinary Skill in the Art

The level of skill of a person of ordinary skill in the art in 1975 was that of an opthalmic surgeon actively engaged in IOL implantation. Tr. at 27, 969. In 1974, there were no American IOL manufacturers. Tr. at 680. The designers were not experts in polymer chemistry, but were physicians familiar with surgically implanted materials. Tr. at 969.

2. Scope and Content of the Prior Art
a. Art before the PTO

IOLs were first used in 1949 by Dr. Ridley. Since that time, numerous designs have been developed and many different materials used. Freeman admitted that several models were part of the prior art, Tr. at 86-88, and that the shapes described in the embodiment of the '640 patent were in the prior art. The use of platinium and nylon as support materials was also part of the prior art. *See e.g.*, DX-110. Finally, the PTO was aware that the goal of making a weightless IOL had existed since at least 1963. DX-133.

b. Art not before the PTO

3M relies on art not before the PTO. Reliance upon such art does not reduce 3M's burden of proof in demonstrating invalidity. *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1544 (Fed.Cir. 1983). If the art is more pertinent than that before the PTO, however, consideration of it may facilitate 3M's meeting its burden of proving

invalidity. *W.L.Gore*, 721 F.2d at 1553.

The examiner originally rejected Freeman's claims in light of the Neefe patent. He later lifted this rejection after Freeman removed the Neefe patent as a reference before the PTO by filing his Rule 131 Affidavit. The Court has held that the Neefe patent is a proper reference for purposes of Section 102. *See* discussion *supra*. The same standard applies for determining the date of invention for Section 103 purposes. 2 D. Chisum, *Patents* § 5.03[2] (1987). Thus, the Neefe patent is prior art that contains the idea of making an IOL weightless by placing air pockets in the support structure.

The PTO was not aware of the existence of the Barraquer Article. This article teaches that an IOL should weigh as little as possible and that polyethylene would make a good support material if it could be molded properly. Freeman argued that the article taught away from his invention by referring to molding difficulties. *In re Fine*, 837 F.2d 1071, 1074 (Fed.Cir. 1988); *W. L. Gore*, 721 F.2d at 1550. However, the article recommends the use of elastic supports and lightweight materials and this could lead one of ordinary skill in the art to use a material similar to polyethylene that could be molded more easily, such as polypropylene.

c. Analogous Art

The Court presumes that Freeman had full knowledge of all of the prior art in the field of his endeavor. *See In re Wood*, 599 F.2d 1032, 1036 (C.C.P.A. 1979). The Court also presumes he had knowledge of analogous art outside of the field if it is "reasonably pertinent to the particular problem with which [Freeman] was involved." *Id.*

The nonabsorbable suture art is an analogous art. People of ordinary skill in the art of IOL design were opthalmic surgeons who were familiar with sutures. Furthermore, the prior art taught the use of suture materials such as platinium and nylon as support materials. Tr. at 632-35. Dr. Robert Drews, an opthalmic surgeon, testified that designers in 1975 would look to the suture art for new materials because they were familiar with suture materials. Tr. at 969-70. The nylon supports actually used were composed of Supramid, a suture material. When doctors began using polypropylene for supports, they actually used Prolene brand sutures and received them with the suture hook still attached. Finally, Freeman admits that the suture art is "one of the most analogous arts." Tr. at 275. It can thus be seen that the suture art is "reasonably pertinent" to the design of IOL support structures. *In re Wood*, 599 F.2d at 1036.

3. Differences From Prior Art

Claims 1 and 4 teach using low density irido-capsular supports in order to produce substantial neutral buoyancy. The prior art taught achieving neutral buoyancy by means of using a lens doublet or placing air pockets in the supports. The difference between the claims and the prior art is therefore the use of low density support materials to produce neutral buoyancy rather than reducing the density of the optic portion by means of a lens doublet or air chambers.

Under 3M's interpretation, Claims 10, 11, 21, and 22 teach something similar to Claims 1 and 4. Under Freeman's interpretation, the claims would cover the use of any amount of low density support material in order to reduce the density and weight of an IOL. The prior art taught reducing the weight of the IOL, and the use of polyethylene, a low density support material. There is little difference from the prior art under Freeman's interpretation because the Barraquer article teaches the use of a buoyant support material in order to reduce the weight of the IOL.

4. Secondary Considerations of Nonobviousness

Freeman produced minimal direct evidence relating to secondary considerations. He actually negated the existence of copying by demonstrating that there could have been no copying. Freeman admitted that no company changed to the use of polypropylene support materials as a result of a disclosure by him. Tr. at 141. This is because he did not disclose his invention until his original patent issued in 1978. 3M, however, started using polypropylene in February of 1977, Tr. at 360-61, largely as a result of George Wright's attendance at a seminar by Dr. Troutman. Tr. at 721. IOLAB, another IOL manufacturer, switched to polypropylene by November of 1976, even before 3M did. PT at (3)-6. Furthermore, the use of a "negative-buoyancy material such as polypropylene to construct the haptic supports" was disclosed in a 1977 article by Richard C. Troutman entitled "The Weightless Intraocular Lens," also published prior to Freeman's patent. PTX-19. That polypropylene was so well established by 1977 is evidence that there was no copying of Freeman's ideas. Freeman produced no evidence to the contrary.

The bulk of Freeman's proof is on the issues of commercial success and long-felt need. Even here, however, Freeman failed to demonstrate the required nexus between his invention and the success. *Cable Elec. Products, Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1026-27 (Fed.Cir. 1985). George Wright, a former 3M product manager,

testified that he utilized 3M's use of polypropylene as a selling point. Tr. at 742. He noted the low weight of the devices, and even described the IOL's buoyant weight in aqueous humor in a section on 3M's sales brochures. *See, e.g.*, PTX-24.

Although George Wright and Dr. Hirschman testified that the use of polypropylene was a significant improvement, the amount of this significance is qualified. Wright testified that 3M previously used platinum, a heavy metal, as its support material. Tr. at 719. Many European manufacturers used nylon, a material that is light, but one which has a density greater than that of aqueous humor. 3M, however, did not use nylon because nylon is biodegradable and could present problems when such IOLs are implanted. Tr. at 719. Wright testified that 3M sought a material of similar weight to nylon that was not biodegradable, and that polypropylene has these qualities. Tr. at 722. Concerning the respective weights of nylon and polypropylene, Wright stated that nylon supports, although negatively buoyant, do not present a weight problem and that IOLs incorporating them are "essentially neutrally buoyant," the same term he used to describe IOLs with polypropylene haptics. Tr. at 727. Wright's testimony proves only that light supports are commercially advantageous, not that buoyant supports are, and does not prove the nexus between Freeman's invention and any commercial success.

5. Analysis

The Court's analysis involves examining many references, including articles and patents. In the process, the Court must avoid resorting to hindsight in combining the references, *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1134 (Fed.Cir. 1985), and must examine the art to determine whether something in the art itself suggests the desirability of making the combination. *Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462 (Fed.Cir. 1984). Under this analysis, the prior art clearly suggests using buoyant supports to either reach neutral buoyancy or to lower the weight of the IOL.

Freeman's patent does not specifically disclose polypropylene, but rather, refers to support means with positive buoyancy. While no single reference teaches precisely Freeman's claims, the art as a whole suggests the subject matter. The goal of neutral buoyancy was known since at least 1963 and was referred to in the Neefe patent in 1975. The cited prior art taught reducing the weight of the IOL by using a lens doublet or air pockets in the support means. Barraquer taught that it would be desirable to make a lightweight IOL by using

supports made of polyethylene, a buoyant material. These references clearly suggest changing to a light buoyant support material, and the use of a buoyant material to achieve neutral buoyancy. The conclusion of obviousness is buttressed by the fact that much of the industry had changed support materials from platinum to nylon because of weight considerations and later switched to polypropylene without disclosure from Freeman.

The fact that polypropylene is a suture material, used in an analogous art, further supports the conclusion that Freeman's invention was obvious. Polypropylene was popular as a suture material in the early 1970s and much was known and written about its qualities. *See* Tr. at 975; DX-13-14; DX-123; DX-126; DX-258 at 10-12; PTX-84 at 9. Both Drs. Drews and Goldberg testified that polypropylene would have been an obvious choice as a material for a designer in 1975 because of its availability as a suture material. Platinum, nylon, and polyethylene were all suture materials. Polypropylene, as a popular suture material, would have been the obvious choice for a new material, especially if polyethylene could not be used. Therefore, because of the teachings in the art that low weight is desirable, and because of the availability of polypropylene as a low density suture material, the Court holds Claims 1, 4, 10-11, and 21-22 invalid as obvious over the prior art.

Even if the Court had adopted Freeman's interpretation that his claims require only a reduction in weight, the claims would be invalid as being obvious over the prior art. The Barraquer Article clearly suggests using a buoyant material in the support structure in order to reduce the weight of the IOL.

C. Reissue Recapture

3M asserts that Claims 10, 11, 21, and 22 would be invalid under Freeman's interpretation because they would recapture subject matter cancelled during prosecution of the original patent. A patentee can seek reissue of his patent if the patent is "through error without any deceptive intention, deemed wholly or partly inoperable or invalid,. . .by reason of the patentee claiming more or less than he had a right to claim in the patent." 35 U.S.C. § 251 (1982). However, under the equitable doctrine of claim recapture, claims broader than cancelled claims are not permissible, and claims broader than the claims of the original patent are permissible only if they are more restrictive in at least one significant respect than the cancelled claims. *Ball Corp. v. United States*, 729 F.2d 1429, 1436 (Fed.Cir. 1984); *In re Richman*, 409 F.2d 269, 276 (C.C.P.A. 1969).

In Freeman's initial application, he sought to claim "buoyancy means having a mean density less than the density of said aqueous humor coupled to said [optical] lens for reducing the overall mean density of said device." After an initial rejection, Freeman amended this to claim "buoyancy means external of and attached to said optical lens and having a mean density less than the density of said aqueous humor for both providing a support to hold said optical lens in place when implanted into said human eye and for reducing the overall mean density of said device." Amendment, PTX-4 at 22-23. This claim ("Cancelled Claim 1") was again rejected by the examiner as being anticipated by the Neefe patent and obvious over the Neefe and Otter patents. Examiner's Action, PTX-4 at 32. In response to this rejection, Freeman added the limitation of reducing the overall mean density "to substantially that of said aqueous humor," and the limitation of irido-capsular support, and filed his Rule 131 Affidavit to remove the Neefe patent as a reference. Amendment PTX-4 at 38-53.

3M argues, that under Freeman's interpretation that the reissue claims cover any reduction in weight due to low density supports, Freeman would recapture the subject matter of Cancelled Claim 1 because that claim required only a reduction in the overall mean density of the device. 3M contends that Claims 10, 11, 21, and 22 are broader than Claim 1 of the '071 patent because there is no limitation of substantial neutral buoyancy and they are not more restrictive in at least one significant respect then Cancelled Claim 1. Freeman argues that although the reissue claims are broader in the buoyancy condition, they are narrower in that Claims 10 and 11 do not cover anterior chamber or iris-plane IOLs and because Claims 21 and 22 do not cover iris-plane IOLs. The examiner's opinion in Paper 31 does not aid the Court because he looked only at the buoyancy limitations and concluded that "buoyant uplift" was broader than neutral buoyancy yet narrower than a mere reduction of the mean density.

Under Freeman's interpretation, Claims 10, 11, 21, and 22 are invalid because of reissue recapture. Reissue recapture is an equitable doctrine designed to prevent patentees from circumventing the PTO's internal appeal process by seeking reissue to broaden a claim. Freeman admits that he sought reissue in order to cover polypropylene IOLs like that of 3M and argues that he claimed less than he had a right to claim in the original patent. He may have done so, but he cancelled the original limitation of using buoyancy means to reduce the density of the IOL. He cannot now recapture the same subject matter that he cancelled when he added the neutral buoyancy condition to Claim 1. Thus, Claims 10, 11, 21, and 22 are invalid under

Freeman's interpretation.

V. INEQUITABLE CONDUCT

3M charges that Freeman's not disclosing his reissue intentions to the PTO and his characterizing prior art in a misleading way constitute inequitable conduct. *See* PTO Rule 56, 37 C.F.R. §1.56 (1987). 3M also seeks to have the case classified as an exceptional case in order to receive its attorneys' fees. The Court finds the charge of inequitable conduct unsupported. Freeman assessed his claims after the first patent issued and decided without deceptive intent that he had erred. He disclosed his intentions throughout the entire reissue process. 3M has not produced clear and convincing evidence that Freeman submitted false information or omitted material information. *See J.P. Stevens & Co. v. Lextex, Ltd.*, 947 F.2d 1553 (Fed.Cir. 1984), *cert. denied*, 474 U.S. 822 (1985). Therefore, the Court holds that Freeman did not engage in inequitable conduct. The Court also holds that this suit was not frivolous and that exceptional circumstances were not present.

VI. CONCLUSION

The Court holds that Claims 1, 4, 10, 11, 21, and 22 of the '640 patent are invalid, and were not infringed by 3M. Freeman's claims are not infringed by any of 3M's IOLs because all of 3M's IOLs are negatively buoyant. 3M has produced sufficient clear and convincing evidence of obviousness to overcome the presumption of validity and lead the Court to conclude that all of the claims at issue are invalid as obvious over the prior art. 3M also produced clear and convincing evidence that Claim 10 is invalid because it was anticipated by the Neefe patent.

An Order will issue in confirmity with this Opinion.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

DR. JERRE M. FREEMAN,	)	
	)	
Plaintiff,	)	
	)	
v.	)	Civ. Action 84-577-CMW
	)	
MINNESOTA MINING AND MANUFACTURING COMPANY,	)	
	)	
	)	
Defendant.	)	

ORDER

This 29th day of August 1, 1988, in accordance with the Opinion filed this date,

IT IS HEREBY ORDERED:

1. Claims 1, 4, 10-11, and 21-22 of U.S. Reissue Patent No. 31,640 were not infringed by Defendant.

2. Claims 1, 4, 10-11, and 21-22 of U.S. Reissue Patent No. 31,640 are invalid.

/s/ Caleb M. Wright
UNITED STATES DISTRICT COURT JUDGE